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agent effective to alter the proliferation or growth of the lung cancer cells, wherein the agent is selected from a *hedgehog* antagonist, a *ptc* agonist, and an *fgf-10* antagonist.

2. (Twice Amended) A method for inhibiting the growth of a lung tumor which expresses *hedgehog*, comprising contacting the lung tumor with an amount of an agent effective to inhibit the growth of the lung tumor, wherein the agent is selected from a *hedgehog* antagonist, a *ptc* agonist, and an *fgf-10* antagonist.

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E2

3. (Amended) The method of claim 1, wherein the lung cancer tissue is in culture, and the agent is provided as a cell culture additive.

4. (Reiterated) The method of claim 1, wherein the cell is treated in an animal and the agent is administered to the animal as a therapeutic composition.

5. (Twice Amended) The method of claim 1 or 2, wherein the agent is a *hedgehog* antagonist.

6. (Reiterated) The method of claim 5, wherein the *hedgehog* antagonist is a polypeptide including a *hedgehog* polypeptide sequence of at least an extracellular portion of a *hedgehog* polypeptide that binds to a *patched* polypeptide and blocks *hedgehog* signaling.

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E3

7. (Reiterated) The method of claim 6, wherein the polypeptide includes at least 50 amino acid residues of an N-terminal half of the *hedgehog* polypeptide.

8. (Reiterated) The method of claims 6, wherein the polypeptide includes at least 100 amino acids of an extracellular domain of the *hedgehog* polypeptide.

9. (Reiterated) The method of claim 6, wherein the polypeptide includes at least a portion of the *hedgehog* polypeptide corresponding to a 19 kd fragment of an extracellular domain of the *hedgehog* polypeptide.

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10. **(Reit rated)** The method of claim 6, wherein the *hedgehog* polypeptide is encoded by a nucleic acid of a vertebrate organism.
 11. **(Reiterated)** The method of claim 6, wherein the polypeptide includes a *hedgehog* polypeptide sequence represented in the general formula of SEQ ID No: 21.
 12. **(Reiterated)** The method of claim 6, wherein the polypeptide includes a *hedgehog* polypeptide sequence represented in the general formula of SEQ ID No: 22.
 13. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide is encoded by a human *hedgehog* nucleic acid.
 14. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is at least 60 percent identical to an amino acid sequence of a *hedgehog* protein selected from SEQ ID No: 10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15 SEQ ID No:16, SEQ ID No:17, SEQ ID No:18, and SEQ ID No:20.
 15. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is encodable by a nucleic acid sequence which hybridizes under stringent conditions, including a wash step of 2.0X SSC at 50 °C, to a sequence selected from SEQ ID No:1, SEQ ID No:2, SEQ ID No:3, SEQ ID No:4, SEQ ID No:5, SEQ ID No:6, SEQ ID No:7, SEQ ID No:8, SEQ ID No:9, and SEQ ID No:19.
 22. **(Reiterated)** The method of claim 1 or 2, wherein the *hedgehog* antagonist, *patched* agonist, or *fgf-10* antagonist is a small organic molecule.
 23. **(Reiterated)** The method of claim 5, wherein the *hedgehog* antagonist is a small organic molecule.
 24. **(Reiterated)** The method of claim 5, further comprising preparing a formulation including an identified *hedgehog* antagonist and a pharmaceutically acceptable excipient.

25. **(Reiterated)** The method of claim 5, wherein the *hedgehog* antagonist binds to *hedgehog* and blocks *hedgehog* signal transduction.
26. **(Reiterated)** The method of claim 5, wherein the binding of the *hedgehog* antagonist prevents the upregulation of *patched* and/or *gli* expression.
27. **(Reiterated)** The method of claim 5, wherein the *hedgehog* antagonist decreases *hedgehog* signal transduction by altering the localization, protein-protein binding and/or enzymatic activity of an intracellular protein involved in a *hedgehog* signal transduction pathway.
28. **(Reiterated)** The method of claim 5, wherein the *hedgehog* antagonist alters the level of expression of a *hedgehog* protein, a *patched* protein or a protein involved in a *hedgehog* signal transduction pathway.
29. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is at least 75 percent identical to an amino acid sequence of a *hedgehog* protein selected from SEQ ID No: 10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, SEQ ID No:17, SEQ ID No:18, and SEQ ID No:20.
30. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is at least 85 percent identical to an amino acid sequence of a *hedgehog* protein selected from SEQ ID No: 10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, SEQ ID No:17, SEQ ID No:18, and SEQ ID No:20.
31. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is at least 90 percent identical to an amino acid sequence of a *hedgehog* protein selected from SEQ ID No: 10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, SEQ ID No:17, SEQ ID No:18, and SEQ ID No:20.
32. **(Reiterated)** The method of claim 6, wherein the *hedgehog* polypeptide sequence is at least 95 percent identical to an amino acid sequence of a *hedgehog* protein selected from SEQ ID

No: 10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, SEQ ID No:14, SEQ ID No:15, SEQ ID No:16, SEQ ID No:17, SEQ ID No:18, and SEQ ID No:20.

The amended claims are restated below to reflect changes from the last filing.

1. **(Twice Amended)** A method for [modulating]inhibiting at least one of the proliferation[, differentiation, or] and growth [survival] of lung cancer cells [tissue] which express hedgehog [or cells derived therefrom], comprising contacting the cells [tissue] with an amount of an agent effective to alter the proliferation[, differentiation,] or growth [survival] of the lung cancer cells [tissue], wherein the agent is selected from a *hedgehog* antagonist, a *ptc* agonist, and an *fgf-10* antagonist.
2. **(Twice Amended)** A method for [inducing the formation of, or the maintenance or functional performance] inhibiting the growth of a lung tumor which expresses hedgehog [tissue], comprising contacting the lung tumor [tissue] with an amount of an agent effective to [induce the formation of new] inhibit the growth of the lung [tissue] tumor, wherein the agent is selected from a *hedgehog* antagonist, a *ptc* agonist, and an *fgf-10* antagonist.
3. **(Amended)** The method of claim 1, wherein the lung cancer tissue is in culture, and the agent is provided as a cell culture additive.
5. **(Twice Amended)** The method of claim 1 or 2, wherein the agent is a *hedgehog* antagonist.

REMARKS

Claims 1-32 constitute the pending claims in the present application. Claims 1-17 and 22-32 were elected with traverse. Applicants will cancel non-elected claims upon indication of allowable subject matter. Applicants cancel, without prejudice, claims 16 and 17. Applicants respectfully request reconsideration in view of the following remarks. Issues raised by the